



EX PARTE OR LATE FILED

ORIGINAL

Henry L. (Jeff) Baumann

Executive Vice President, Law & Regulatory Policy  
Legal & Regulatory Affairs  
1771 N Street, NW • Washington, DC 20036-2981  
(202) 429-5454 • Fax: (202) 775-3526  
jbaumann@nab.org

August 25, 1999

RECEIVED

AUG 26 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Ms. Magalie R. Salas  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Room 222  
Washington, DC 20554

RE: IB Docket No. 95-91  
GEN Docket No. 90-357 ✓  
RM No. 8610

Dear Ms. Salas:

On March 3, 1997, the Commission adopted a Further Notice of Proposed Rulemaking in the above-referenced proceeding seeking comment on its proposal to permit deployment of satellite Digital Audio Radio Service ("DARS") terrestrial repeaters by SDARS licensees.

Since that time, the SDARS licensees have been required to up-date the technical record on their SDARS service proposals, in order to inform the Commission and commenting parties of modifications to their system designs. In so submitting information on their DARS system designs, however, the SDARS licensees have not included information useful to commenting parties about their proposed use of terrestrial repeaters. NAB, in comments and reply comments in response to the above-mentioned Further Notice of Proposed Rulemaking, noted this dearth of relevant information about repeaters and re-iterated the need for such information in order to make meaningful comment to the Commission on this subject and as a foundation for the Commission to base authorization or rules for the use of such repeaters.

The Commission has not yet received such information from the SDARS licensees nor of course has it authorized deployment of terrestrial repeaters for SDARS service. Nonetheless, there are reports in the trade press (see enclosed) that SDARS licensee XM Satellite Radio has entered into contracts with suppliers for a network of terrestrial repeaters.

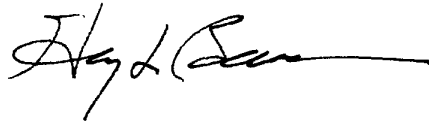
August 25, 1999  
Page 2

In comments earlier this year on the since-withdrawn application of WCS Radio to provide SDARS service, NAB urged the Commission to re-open the comment period on DARS terrestrial repeaters to enable comments to be received and considered that are relevant to the SDARS systems actually being offered, noting the significant changes to the system design of SDARS licensee CD Radio.

Simply put, the record before the Commission on the subject of SDARS terrestrial repeaters is far from current, the changes to DARS licensee CD Radio's satellite system design are significant and the information supplied to the Commission by both DARS licensees on their proposed use of terrestrial repeaters is virtually nil. The *current* proposals for use of terrestrial repeaters by the DARS licensees deserve public scrutiny and must have authorization from the Commission *before* these licensees begin deployment of repeater networks, which appears to be underway at this time.

NAB hereby requests the Commission to require submission of current information by the DARS licensees on their proposed use of terrestrial repeaters and to re-open the comment period to afford public comment on this matter.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Roy J. Stewart", with a long horizontal flourish extending to the right.

Attachments

cc: FCC Commissioners  
Roy J. Stewart, Chief, Mass Media Bureau  
Donald Abelson, Chief, International Bureau  
Carl R. Frank, Counsel for Satellite CD Radio, Inc.  
Bruce D. Jacobs, Counsel for XM Satellite Radio Corp.

kept them all in-house, which could allow Democrats to raise protest on House floor. They would ultimately lose, Hill observers say, but would have chance to make point anyway.

Another player may be entering field. National Research Council is searching for funding for study of child online protection as required by legislation passed last fall protecting children from sexual predators. Bill didn't provide Justice Dept., which has to authorize study, or NRC, with any funds, so NRC is looking for combination of private and govt. funds to support report, which is due 2 years after bill's passage.

### \$115 Million Contract to LCC

#### **XM SATELLITE RADIO TO BUILD REPEATER NETWORK ACROSS U.S.**

XM Satellite Radio said it awarded \$115 million contract to LCC International to build nationwide terrestrial repeater network for its planned satellite digital audio radio service (SDARS), scheduled to begin in 2nd quarter 2001. Company plans to install 1,700 terrestrial repeaters to cover 70 cities and metropolitan areas across U.S. Largest urban markets could require 100 or more repeaters, but smaller cities with fewer tall buildings may need only 1-3, XM said.

SDARS use of terrestrial repeaters in 2310-2360 MHz band had been opposed at FCC by NAB and others in past (CD June 19/97 p10), but XM, which plans to operate in 2332.5-2345 MHz band, said it was confident it had full regulatory support for implementation of its 100-channel service. It said it awaits only "final technical rules" on operations in band. NAB said Thurs. its primary concern was that, in future, repeaters be used only to provide SDARS service, and not new services.

Construction of XM's repeater network probably would be funded in part by capital raised from company's planned initial public offering (IPO). XM filed registration with SEC July 23 for IPO to raise \$138.7 million. It said funds raised are expected to be sufficient to cover operating needs through first quarter 2000. IPO could occur as soon as Oct., analyst said: "It depends on how quickly the SEC moves."

XM said it needs to raise \$1.08 billion to implement its DARS system and so far has raised \$330.8 million, including \$250 million cash infusion from sale of bonds to Clear Channel Communications, DirecTV, General Motors (GM). Company said it will require "additional significant funds" after start of commercial operations, including cost of long-term distribution agreement with GM's OnStar Div.

### Comsat Cut Rates 55%

#### **LOCKHEED MARTIN-COMSAT MERGER LEADS TO SPARRING BY COMPETITORS**

Lockheed and Comsat rejected notion that Lockheed's application to acquire 49% of Comsat has been put on fast track for approval at FCC (CD Aug 19 p1). "If anything, the merger has been delayed because a number of our competitors have pulled out all the stops to slow it down," Comsat Vp-Corporate Affairs Jay Ziegler said. PanAmSat Vp-Govt. Affairs Kalpak Gude disagreed, saying Lockheed-Comsat merger time line relates close scrutiny regulators and competitors have applied to deal. "This is a unique merger," Gude said: "What other merger can you name that requires congressional action for consummation, or that involves a quasi-governmental entity with privileges and immunities? This is not a vanilla merger."

Meanwhile, Comsat said House Commerce Committee Chmn. Bliley's (R-Va.) contention that implementation of direct access provisions — which exist in 95 nations — would result in lower costs to consumers is misguided. Ziegler said that over last 6 years Comsat has cuts its price-per-circuit to carriers more than 55%, to \$361 in 1998 from \$650 per month in 1992, while same carriers have raised their prices to consumers. Ziegler said average cost-per-min. for basic international calls on AT&T, MCI and Sprint networks has increased to \$2.03 in 1998 from \$1.26 per min. in 1992. "The real question is why haven't the major carriers passed on the savings we've afforded them to their customers?" he asked.

Ken Johnson, spokesman for Rep. Tauzin (R-La.) said Tauzin supports approval of Lockheed-Comsat application and "applauds the FCC's decision to act" on application and "hopes the FCC will live up to its promise" to act expeditiously. Johnson said Tauzin "offered to work as an intermediary between" Bliley and Senate Communications Subcommittee Chmn. Burns (R-Mont.) on issue. Spokesman for ranking Commerce Committee Democrat Dingell (Mich.) said that although Dingell "takes no position" on merits of merger, he wants FCC to reach decision soon: "It's gone on long enough."



# R&R TODAY

• The Daily Digest Of The Radio Industry

WEDNESDAY

Aug. 18, 1999

## ROUTE TO:

<input type="radio"/>	GM
<input type="radio"/>	GSM
<input type="radio"/>	PD
<input type="radio"/>	MD
<input type="radio"/>	
<input type="radio"/>	

## Newstips!

PHONE:  
(310) 788-1699

FAX:  
(310) 203-9763

E-MAIL:  
mailroom@  
rronline.com

Spring '99  
Arbitrons from  
Fayetteville, AR:  
Sioux City, IA:  
Anchorage, AK:  
Ft. Smith, AR:  
Green Bay, WI:  
Odessa-Midland,  
more: Page 4

R&R composite  
index explodes  
Tuesday:  
Page 2

## Spanish Format Share Trends Explode In Spring Book

That's according to Interep's just-released Format Share Trends report, based on the spring '99 Arbitrons for the 93 continuous markets. Spanish stations trended 6.3-8.1 for third-place honors. Audience share grew by 29%, while the number of stations climbed 22%. While the inclusion of Puerto Rico automatically sent the figures North-bound, strong ratings throughout the states have helped Spanish radio's ascension. Meanwhile, CHR rose 7.4-7.7 for its best numbers in a year, AC slid 8.7-7.8 and Country slipped 8.1-7.9. News/Talk remained No. 1, trending 14.7-13.5.

## DOJ Officially Forces Ingstads To Sell In Fargo

The Department of Justice said yesterday it was forcing James and Thomas Ingstad to divest five stations in the Fargo, ND area to Triad Broadcasting. Today's announcement was a formality, though, as Triad and the Ingstads announced in May that they had cut a deal for KQWB-AM & FM, KLTA-FM, KPFX-FM & KVOX-FM/Fargo specifically to avoid DOJ action. A DOJ spokeswoman says the agency still had to make a ruling on the case, because competition had been threatened in Fargo. Earlier this year the Ingstads bought six stations from KFGO Inc., giving them 11 stations and putting them way over the market limit.

## Ed Tyll, Tom Leykis Reportedly Pulled From WWDB-FM/Philly

According to the *Philadelphia Inquirer*, the station did a quick about face in its decision to bring in the syndicated talkers. Leykis, who had been airing from 10pm to 1am nightly, is already off the station. Overnighter Tyll is still on for the time being. WWDB GM Dennis Begley told the newspaper, "Ownership was uncomfortable with the Leykis show. They wanted the show off the air." Glenn Fisher, who syndicates the Tyll show, told **R&R TODAY**, "Ed Tyll is absolutely still on WWDB-FM." The *Inquirer* says the station plans on filling the slots with local programming.

## Across Town, ABC Buys WWJZ-AM For Radio Disney Home

ABC Radio's purchase of the 50kw day/1kw night Mt. Holly, PA station, currently owned by Mt. Holly Radio, will place Radio Disney in 16 of the top 20 markets. No purchase price was announced for the station.

## XM Signs Unique Hardware Design Deal

Ontario-based **Unique Broadband Systems** has been awarded an interim contract to design the hardware for XM Satellite Radio's network of terrestrial repeaters. USB is one of several companies bidding on the final contract, which will be awarded in three months. In June, XM signed a deal with LCC Intl., which is conducting the design, site acquisition, zoning and architectural services for the repeater network.

If you experienced transmission problems, please call our Circulation Dept. at (310) 788-1625.

© 1999 Radio & Records, Inc. All Rights Reserved. No part of this material may be reproduced in any form or incorporated in any information retrieval system without written permission of the Publisher.

Reach more listeners  
Increase market share  
Generate revenues

www.webradio.com

Unlimited Bandwidth • Unlimited Streams



contact:  
Affiliate Relations Dept  
888.643.6782, ext. 302  
sales@webradio.com

powered by  
**EMBLAZE**

Come visit us at  
NAB in Orlando  
at Booth #549

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of	)
	) SAT-LOA-19981112-00085
Application of WCS Radio, Inc.	) SAT-LOA-19981113-00086
For Launch and Operating Authority	)
In the Digital Audio Radio Service	)

**REPLY COMMENTS OF THE  
NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters (NAB)<sup>1</sup> hereby files in reply to the Consolidated Opposition of WCS Radio, Inc.<sup>2</sup> to petitions to deny and other comments filed with regard to its application to construct, launch and operate two new communications satellites in the Digital Audio Radio Service (DARS). NAB also here files in reply to the Opposition to National Association of Broadcasters<sup>3</sup> filed by Satellite CD Radio, Inc. (CD Radio) in this same proceeding. NAB's reply to both sets of oppositions comes down, frankly, to amazement that the parties are asking the Commission to act on factual records so bereft of critical facts.

**I. THE RECORD ON TERRESTRIAL REPEATERS IS NOT CURRENT AND SHOULD BE REOPENED.**

NAB, in its Opposition to the grant of the Application of WCS Radio, Inc., re-iterated its concern with the authorization and use of terrestrial gap fillers in the satellite DARS (SDARS) service. We asked the Commission to re-open the comment period on terrestrial repeater rules.

---

<sup>1</sup> NAB is a nonprofit incorporated association of radio and television broadcast stations and networks. NAB serves and represents America's radio and television stations and all the major networks.

<sup>2</sup> Consolidated Opposition of WCS Radio, Inc., File Nos. SAT-LOA-19981113-00085, SAT-LOA-19981113-0008, Jan. 26, 1999 (hereinafter "Consolidated Opposition").

<sup>3</sup> Opposition to National Association of Broadcasters, File Nos. SAT-LOA-19981113-00085, SAT-LOA-19981113-00086, Jan. 27, 1999.

given the potential addition of a new DARS system as well as the significant changes to the system design of DARS licensee, CD Radio. CD Radio opposes the request of NAB in this regard, stating that the Commission will not re-open a comment period unless the record is not current,<sup>4</sup> and that, here, neither WCSR's application nor CD Radio's modification application requires a change in the terrestrial repeater record, claiming, as to its changes, only that "CD Radio's new technical proposal will reduce the number of terrestrial repeaters needed for its system."<sup>5</sup>

A closer inspection of the technical record in this matter reveals otherwise. Prior to the submission of their modification application, the most current technical information on terrestrial repeaters was contained in a letter from CD Radio to the Commission, written in response to a Commission request for information on specific issues regarding terrestrial repeaters. Comparing the technical details on repeaters in this letter with the corresponding details in the modification leaves no doubt that the record on this matter is anything but current and begs for a new opportunity for public comment. ✓

In fact, some of the more sweeping changes proposed in the modification pertain to the use of terrestrial repeaters. In their letter, CD Radio indicated that, for terrestrial repeaters, "the transmission plan is based on CDMA PCS,"<sup>6</sup> which was the same type of modulation proposed for use in the space-to-earth transmission (at that time). In these earlier plans, the spacecraft and terrestrial repeater transmissions were going to both consist of spread spectrum carriers, occupying the same 12.5 MHz of bandwidth.

---

<sup>4</sup> *Id.* at 5.

<sup>5</sup> *Id.*

<sup>6</sup> Letter from Robert D. Briskman, Chief Technical Officer, CD Radio, to Patricia Chung, Deputy Chief, Satellite Policy Branch, Satellite & Radio Communication Division, International Bureau of Telecommunications Commission, (Nov. 14, 1997) (hereinafter "CD Radio letter").

<sup>7</sup> *Id.* at 3.

Now this situation is completely different. In the modified system, details of which were *first presented* in the modification and have never been subject to public comment, the spacecraft and the terrestrial repeaters are now using *different* types of modulation, and are placing these transmissions in *different* parts of CD radio's assigned spectrum. According to CD Radio, its 12.5 MHz frequency band will be segmented "in thirds and [their system will] use time division modulation for its satellite transmissions and coded orthogonal frequency division multiplexing for its terrestrial transmissions,"<sup>8</sup> understanding that "similar segmentation and modulations will be used by the other satellite DARS licensee, XM Satellite Radio, Inc."<sup>9</sup>

Changes in the space segment of CD Radio's system, also revealed for the first time in the modification, impact the information provided in the letter on terrestrial repeaters, as well. For example, they describe in their letter the three types of terrestrial repeaters they plan to employ: active, passive, and "tunnels."<sup>10</sup> The passive repeater description includes details on its receive antenna, indicating it will be directive (with a 10° beamwidth), and "pointed at one CD radio satellite."<sup>11</sup> However, now that the satellites are no longer geostationary this configuration won't work, since the moving satellites now proposed would not be tracked by the sort of apparatus described.

These important changes, and others, are simply glossed-over in the CD Radio Opposition with the promise that "fewer terrestrial repeaters" will be necessary (with respect to their original plan), as if that is sufficient reason not to discuss them. Receiver designs are impacted in a major way by these changes -- previously, a CD Radio receiver was simply a 12.5 MHz-wide CDM receiver, receiving and processing both satellite and terrestrial receivers, like

---

Application of Satellite CD Radio, Inc. to Modify Authorization, File No. 44-DS8-XMFND-1, December 11, 1998, at 5.

<sup>8</sup> *Id.*

<sup>9</sup> CD Radio Letter at 4.

Now, each receiver will actually be two receivers in one-- a satellite signal TDM receiver and a terrestrial signal OFDM receiver--which don't even operate on the same frequencies. It's as if CD Radio has created two separate systems -- a satellite system, which feeds satellite receivers and the input side of a terrestrial repeater network, and, a terrestrial system, with a receiver of its own, a frequency band of its own, albeit fed from a broadcast satellite source. It is completely preposterous of CD Radio to suggest that in light of these changes, the record on this matter is current.

In some ways this situation seems familiar - from the start, the technical record in this proceeding on terrestrial repeaters has been paltry. Indeed, in spite of the detailed submissions filed by the SDARS licensees over the course of this record, there was so little information available on repeaters at the time of the most recent NPRM that the Commission had to make a special request of the licensees to be forthcoming in this matter. Even then, the Commission's request for information was only met in a superficial way by CD Radio, and even more superficially by the other SDARS licensee, XM Radio.<sup>12</sup> CD Radio is continuing in this tradition when it suggests that the record on repeaters is current -- it is not, and the changes that exist are substantial and deserve additional public scrutiny.

## **II. OWNERSHIP ISSUES RAISED BY COMMENTERS IN THIS MATTER DEMONSTRATE THAT THE WCS RADIO APPLICATION IS NOT YET RIPE FOR CONSIDERATION.**

WCS Radio's response to petitions to deny and other oppositions strains credulity even more than CD Radio's response regarding the gap filler technical record with its failure to reveal which WCS licensees are joining together to make this application for nation-wide DARS

---

<sup>12</sup> *Id.*

<sup>13</sup> XM Radio's response was a short, one page letter with little information. See letter from William Garner, Chief Scientist, American Mobile Radio, to the Commission, dated 10/1/01, at 1. Chiara, Deputy Chief, Satellite Policy Branch, International Bureau, FCC, dated 10/1/01.



service and what WCS licenses they are bringing to this consortia. Commenters, including NAB, have raised issues about the ownership and "workability" of the WCSR application, and have suggested that, until WCSR clearly establishes which WCS band license holders (and which licenses) are participating in the WCSR consortium, it would be premature for the Commission to consider its application. Taken together, and along with the information included in WCSR Consolidated Opposition, these comments clearly demonstrate that there are major issues to be resolved regarding WCSR's application.

Bell South *et al.* in their Petition to Dismiss or Deny point out that, apparently, "no licensee of WCS spectrum is definitively committed to the WCS Radio venture and that none currently has an equity interest in the venture."<sup>13</sup> While WCSR claims, in its Consolidated Opposition, that the Commission does not require submission of ownership information as part of its application,<sup>14</sup> they miss the point that, for this application in particular, license "ownership plays a unique, defining role in the ability of the applicant to offer its proposed service. If ownership is not clearly established, the applicant simply is unable to demonstrate that its proposed service will meet one of the basic requirements of SDARS service, that of CONUS service. Without full ownership information on the table, WCSR is not even able to establish which frequencies the service will be operating on (within the appropriate 25 MHz portion of the WCS band).

Moreover, that WCSR "will be able to use far less than the entire 25 MHz block for satellite transmissions"<sup>15</sup> is a new fact, presented in its Consolidated Opposition to clarify, in WCSR's own words, a "basic misconception of WCSR's proposal." But this is a misconception

---

<sup>13</sup> Petition to Dismiss or Deny, File Nos. SAT-LOA-96-011, 2, 3-985, SAT-LOA-96-011, 74-985 (Oct. 13, 1998), at 1 (hereinafter "BellSouth *et al.* Petition").

<sup>14</sup> Consolidated Opposition at 2.

<sup>15</sup> Consolidated Opposition at 14.

fostered by the application itself, which stated in its summary that "WCS Radio proposes to use **all 25 MHz** of the available WCS spectrum for space-to-Earth transmissions of its DARS signals."<sup>16</sup> Ignoring these contradictory WCSR positions on spectrum usage, the remark in the **Consolidated Opposition** regarding use of "less" spectrum would seem to stem from the fact that **the WCS licenses were awarded in 5 MHz and 10 MHz-wide spectrum blocks ("A, B, C, and D blocks")**, and that **WCSR does not anticipate being able to reach agreement with of the license holders for some or all of the blocks.**

In fact, the record on this matter makes it clear that they cannot reach agreement with license holders in all blocks. Bell South *et al.* points out that they have "paid millions of dollars for the rights *to all four WCS spectrum blocks* in [seven] MEAs," "precluding their use by WCSR. In light of these facts, Bell South *et al.* recommend that the Commission "return the [WCSR] application without prejudice and instruct applicant[s] for a SDARS authorization utilizing WCS spectrum that future applications must include a demonstration that the applicant has secured WCS authorizations for the channels and geographic areas within the footprint of any proposed space station."<sup>17</sup> NAB supports this recommendation as it stands, and further recommends that applicants be required to demonstrate not only this, but that the applicant will provide full CONUS service as required by the service rules.

---

<sup>16</sup> Consolidated Opposition at 1 (emphasis added).

<sup>17</sup> BellSouth *et al.* Petition at 5 (emphasis in original). The seven MEAs are: Charlotte-Greenville, Greenville, Atlanta, Tampa-St. Petersburg-Orlando, Miami, Fort Lauderdale, and Tampa-St. Petersburg, and New Orleans-Baton Rouge.

<sup>18</sup> BellSouth *et al.* Petition at 10.

<sup>19</sup> 47 C.F.R. § 25.144(a)(3)(ii).

### III. WCSR DOES NOT AND CANNOT COMPLY WITH THE DARS REQUIREMENT FOR FULL CONUS DARS SERVICE.

WCSR's failure to disclose which WCS licenses have been aggregated for WCSR's DARS proposal serves to *not* highlight its inability to comply with the DARS requirement that each applicant "demonstrate that its system will, at a minimum, **service** the 48 contiguous states of the United States (full CONUS)."<sup>20</sup> But even what seems to be WCSR's fancy footwork pointing out that the DARS rules language in this regard "does not quite correspond to the text of the adopting order," which requires CONUS "coverage," cannot save its inability to demonstrate compliance with the DARS rule requirement. One, the DARS rules say "service," not "coverage." Two, the text of the adopting order clearly reveals that the issue there was whether to require *more* service by DARS providers, not less. Three, WCSR is attempting to draw a distinction between "coverage" and "service" that is not evinced anywhere in discussing these issues in the DARS Order.

WCSR's fancy footwork extends to attempting to reconcile for the Commission the supposed inconsistency between this DARS rule requirement for full CONUS service with the "right" of "each" WCS licensee "to use its spectrum for SDARS."<sup>21</sup> Instead, this line of argument serves to point up that the WCS spectrum was auctioned and licensed with *terrestrial* use in mind, irrespective of the technical allocation of this spectrum for DARS use as well. Surely the Commission did not intend to "grant each WCS licensee [potentially 128] the right to use its spectrum for SDARS," a point also made in greater detail by Bell South.<sup>22</sup> A more sensible interpretation is that this spectrum, in a single (or aggregated) nation-wide block, would

<sup>20</sup> 47 CFR § 25.144 (a)(3)(ii) (emphasis added).

<sup>21</sup> Consolidated Opposition at 14. This language is also at WCSR's DARS proposal at 10, and Bell South's Petition at 7.

<sup>22</sup> Bell South et al. Petition at 7.

be used for DARS service. WCSR's strained and self-serving interpretation simply cannot obviate its failure to demonstrate full CONUS service, as required by the DARS rules.

#### **IV. INTERNATIONAL COORDINATION OF WCSR SERVICE IS LIKELY TO BE DIFFICULT AND NOT IN THE BEST INTERESTS OF THE UNITED STATES**

WCSR, in its Consolidated Opposition, offers a brief, uninformative and misleading explanation of the international coordination issues raised by their application.<sup>23</sup> Rather than bolstering its claim that there is no problem with regard to international coordination, WCSR only serves to highlight the superficial treatment it gives this matter. Additionally, their stated position regarding coordination with a future Mexican SDARS system is self-serving, unrealistic and could well negatively impact relations between the U.S. and its southern neighbor as to international frequency matters, were coordination with Mexico to be carried out as WCSR suggests.

WCSR spends far too much time attempting to discredit earlier positions taken by their would-be DARS competitors, and this distract from the facts of the matter at hand. WCSR states "[n]othing in the terms of that agreement [with Canada] relates to the WCS spectrum..." This statement which reflects only the obvious fact that the coordination specifically addressed the 2310-2345 MHz band, which does not include WCS spectrum. But coordination agreement *does* "relate" to WCS spectrum. Canadian users of the Mobile Aeronautical Telemetry Systems (MATS) being relocated from the 2310-2345 MHz band as a result of the recently concluded coordination, well may end up in the WCS band, since in Canada the MATS allocation extends from 2300 to 2483.5 MHz.<sup>24</sup> The agreement also takes note of the fact that "[t]here will be an increased demand for low-capacity fixed systems in the band [i.e. the 2250-2360 MHz band] for

<sup>23</sup> Consolidated Opposition at 1.

<sup>24</sup> 47 C.F.R. § 2.1000.

services that have been displaced by other newer Canadian services."<sup>25</sup> This added demand in the WCS band only makes more difficult coordination of a WCSR DARS proposal with Canada.

WCSR's Consolidation Opposition devotes a single paragraph to the issue of coordination with Mexico, suggesting that "[f]ar from complicating coordination... WCSR's proposal offers an opportunity to explore innovative spectrum sharing or joint venture solutions...."<sup>26</sup> This mighty attempt to see the glass as half-full would hardly be seen in the same light by Mexico or its future SDARS provider. The WCSR application in reality can only make more difficult the U.S./Mexico negotiations on this spectrum. WCSR Consolidated Opposition acknowledges that Mexico wants to establish an SDARS system. Mexico and the U.S. will thus be in competition for the WCSR frequencies if the WCSR application is approved as the U.S. has already licensed half of the 2310-2360 MHz band for DARS systems that are now on their way to being deployed. For the U.S. to attempt to negotiate for the remaining 25 MHz of this spectrum, for yet a *third* U.S. service, leaving Mexico with only "an opportunity to explore innovative spectrum sharing or joint venture solutions"<sup>27</sup> for its DARS service would see, at best, heavy handed" on the part of the U.S. If on the other hand, the WCS band

<sup>25</sup> [Agreement] *Concerning the Coordination between U.S. Satellite Digital Audio Radio Services and Canadian Fixed Service and Mobile Communication Telephony Services*, 1990 WL 2729-73-5 (1990), last visited Feb. 2, 1999, <http://www.fcc.gov/othrod/agree/darsagre.pdf>, at 2.

<sup>26</sup> Consolidated Opposition at 13.

<sup>27</sup> *Id.*

licensees are terrestrial users (as originally contemplated), then coordination with potential Mexican SDARS service providers, while still difficult, would not proceed from such an aggrandizing U.S. position.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Henry L. Baumann', with a long horizontal flourish extending to the right.

Henry L. Baumann  
Valerie Schulte

David H. Layer  
Senior Engineer

Joan M. Sutton  
NAB Legal Research Assistant

February 2, 1999

NATIONAL ASSOCIATION  
OF BROADCASTERS  
1771 N Street, N.W.  
Washington, DC 20036

**CERTIFICATE OF SERVICE**

I, Kimberly T. Washington, hereby certify that a copy of the foregoing *Reply Comments* of the *National Association of Broadcasters* has been mailed to the following by First Class United States mail, postage prepaid, on this day the 2nd of February

Scott Blake Harris, Esquire  
William M. Wiltshire, Esquire  
Harris, Wiltshire & Grannis LLP  
1200 Eighteenth Street, N.W.  
Washington, DC 20036

Counsel for WCS Radio, Inc.

Richard Wiley, Esquire  
Wiley, Rein & Fielding  
1776 K Street, NW  
Washington, D.C. 20006

Counsel for SATELLITE CD RADIO, INC.

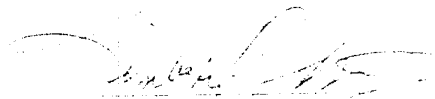
Wayne V. Black, Esquire  
Paula Deza, Esquire  
Keller and Heckman  
1001 G Street, N.W. Suite 500 W  
Washington, D.C. 20001

Counsel for SHELL OFFSHORE SERVICES COMPANY

Lon C. Levin, Esquire  
Senior Vice President, Regulatory  
XM Satellite Radio, Inc.  
10802 Park Ridge Boulevard  
Reston, VA 20191

Paul J. Sinderbrand, Esquire  
Wilkinson, Barker, Knauer & Quinn  
2300 N Street, NW, Suite 700  
Washington, DC 20037-1128

Counsel to BELLSOUTH WIRELESS CABLE INC

  
Kimberly T. Washington

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of

Establishment of the Rules and Policies  
for the Digital Audio Radio Satellite  
Service in the 2310-2360 MHz  
Frequency Band

)  
) IB Docket No. 95-91  
) GEN Docket No. 90-357  
) RM No. 8610  
) PP-24  
) PP-86  
) PP-87

**Comments of the  
National Association of Broadcasters**

The FCC has issued a Further Notice of Proposed Rulemaking<sup>1</sup> proposing to authorize the use of terrestrial repeaters for the recently authorized satellite digital audio radio service ("SDARS"). The National Association of Broadcasters ("NAB")<sup>2</sup> hereby files comments in opposition to that proposal, and here argues that the FCC can not yet even consider authorization of SDARS terrestrial repeaters.

NAB has long been an ardent opponent of SDARS in general and has opposed as well the use of terrestrial repeaters or "gap fillers" in conjunction with a satellite radio service. We have argued against the use of terrestrial repeaters for policy as well as technical reasons, but cannot here make sound judgments about the use of or rules for gap fillers for lack of an adequate record on this "novel" proposal.

---

<sup>1</sup> Report and Order Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, IB Docket No. 95-91, FCC 97-70, (released March 3, 1997) ("Report and Order"; "FNPRM").

<sup>2</sup> NAB is a nonprofit incorporated association of broadcast stations and networks. NAB serves and represents the American broadcasting industry.



We believe the instant proposal to present a "novel" issue in that NAB is unaware of any U.S. satellite system relying upon a terrestrial repeater component. Clearly, a sound technical basis is needed, for commenters and the FCC alike, before any rules governing terrestrial repeaters are considered and adopted.

In its 1995 NPRM on the authorization of SDARS, the FCC explicitly recognized the need for technical information on the use of terrestrial repeaters by SDARS systems before technical rules for such use could be considered.<sup>3</sup> In that NPRM, the FCC declined to even propose those rules "... because we do not have sufficient information."<sup>4</sup> It was there noted by the Commission that

[n]one of the satellite DARS applicants ... provide the necessary technical information in their applications to demonstrate how these complementary terrestrial repeater networks would be implemented.<sup>5</sup>

Continuing, the Commission added that

[u]ntil such information is available and applicants demonstrate how these complementary terrestrial networks would be implemented in the overall satellite system design, we cannot determine if terrestrial gap-fillers should be permitted and what rules should govern their use.<sup>6</sup>

This position was recently re-affirmed by the Commission in its Order, released April 30, 1997, in response to an NAB request to extend the deadline for filing of these comments. NAB, in a letter to the Commission dated April 28, 1997, pointed out, as is reflected in the Order, that

... the two DARS applicants ... are required to submit amended technical proposals on or before May 16 ... [and] it is impossible to comment on the issue of terrestrial repeaters until the amended technical information is available.<sup>7</sup>

<sup>3</sup> Notice of Proposed Rulemaking, IB Docket No. 95-91, 11 FCC Rcd 1 (1995) ("1995 NPRM") at 18, released June 15, 1995.

<sup>4</sup> Id. at ¶ 56.

<sup>5</sup> Id. at ¶ 55.

<sup>6</sup> Id. at ¶ 56.

<sup>7</sup> See FCC Order, DA-97-908, released April 30, 1997, at ¶ 2.

The Commission, in issuing its Order, indicated that "an extension is warranted in this instance,"<sup>8</sup> and the extension was granted on the grounds that there was insufficient information to proceed.

Since that Order was issued, each of the SDARS applicants proceeded to file their amended applications in a timely manner. However, NAB cannot anywhere in the amended applications identify information, technical or otherwise, which would even come close to satisfying the Commission's requirements (quoted above) pertaining to the information needed for establishing rules on terrestrial repeater use with SDARS, nor that would make it possible for NAB to evaluate the use of such repeaters and offer its comments on the same. ✓

In demonstration of this fact, we here reproduce, in entirety, the information provided by CD radio in their amended application on the matter of terrestrial repeaters:

Terrestrial repeaters will also be placed in the cores of large urban cities, and CD Radio plans to apply for appropriate licenses after completion of the further Notice of Proposed Rulemaking on that subject.<sup>9</sup>

It is still necessary in core urban areas and tunnels to provide service by terrestrial repeaters as noted in the previous paragraph ( c)(4).<sup>10</sup>

Interference situations with adjacent Administrations will be coordinated including border situations with mobile receivers and with terrestrial repeaters.<sup>11</sup>

and similarly, by AMRC:

The fundamental components of AMRC's system are: ... (iv) terrestrial repeaters to boost otherwise blocked satellite signals;<sup>12</sup>

The satellites and terrestrial repeaters will operate in the S-band at 2332.5-2345 MHz; consistent with the Commission's proposed rules, the repeaters will not originate any local programming.<sup>13</sup>

<sup>8</sup> Id. at ¶ 3.

<sup>9</sup> Submission and Amendment to Application of Satellite CD Radio, Inc., 71-SAT-AMEND-97 May 16, 1997, at 9

<sup>10</sup> Id. at 24.

<sup>11</sup> Id. at 25

<sup>12</sup> Amendment In re Application of American Mobile Radio Corporation For a System Authorization in the 2.3 GHz Satellite Digital Audio Radio Service, File Nos. 26/27- DSS-LA-93; 10/11-DSS-P-93, May 16, 1997, at 2.

<sup>13</sup> Id.

Terrestrial repeaters will be deployed in selected urban locations.<sup>14</sup>  
In particular, combinations of diversity in space and terrestrial repeaters are proposed to be utilized.<sup>15</sup>

Finally, it is recognized that in certain urban areas, it will be necessary to repeat the satellite transmissions through terrestrial repeaters. These repeaters are expected to operate in one of the five 2.5 MHz frequency slots, separate from the four slots used on the satellites.<sup>16</sup>

The terrestrial repeaters will operate in the remaining nominal 2.5 MHz, passively repeating roughly half of the programming that is carrier by the two satellites.<sup>17</sup>

This information does absolutely nothing to increase the knowledge of the Commission (or any other party) regarding the use of terrestrial repeaters by the SDARS applicants, over that which was available when the Commission addressed this matter in its June 1995 NPRM, with one exception. That exception is the information provided by AMRC regarding the exclusive use of 2.5 MHz of their spectrum by repeaters, and this disclosure does not provide clarity or insight into the operation of AMRC's repeaters, but to the contrary raises a host of new questions about that aspect of their service.

Consequently, NAB does not see how the Commission can proceed with rulemaking on this matter at this time and urges the Commission either to deny the applicants permission to operate terrestrial repeaters or to continue this proceeding until such time as the applicants provide sufficient information upon which to base and comment on terrestrial repeater rules.

It is imperative that the applicants provide pertinent, specific technical information regarding their use of repeaters, including such parameters as expected effective radiated power, expected antenna gain and pattern, specific technical criteria used to establish the need for

---

<sup>14</sup> Id. at A-1.

<sup>15</sup> Id.

<sup>16</sup> Id. at A-2.

<sup>17</sup> Id. at A-3.

repeaters at any given location, repeater interference characteristics both with the satellites and with other repeaters, required spacing between repeaters and other installation requirements, impact on receiver performance of co-incident illumination by both satellite and repeater signals, and the like, before any rules are considered or established.

NAB does take this opportunity to make preliminary and brief comments on policy matters that are affected by the unavailable technical information but capable of general comment at this time.

First and foremost NAB supports as critical to any authorization of SDARS gap fillers the prohibition the Commission and the applicants endorse that the repeaters shall not originate local programming. As the Commission tentatively concluded in the Report and Order, SDARS terrestrial repeaters must be limited to only retransmitting the satellite signal.<sup>18</sup> NAB emphasizes the basic and critical nature of this requirement, which the Commission has presupposed in every discussion of the use of gap fillers.<sup>19</sup> Not only is this requirement necessary to ensure the complementary nature of such repeaters, as required by the SDARS allocation,<sup>20</sup> but to avoid the creation of a terrestrial radio service. This, NAB submits, must be treated as a given.

In this regard, any rules for terrestrial repeaters ultimately adopted must explicitly state that these repeaters are to receive their input signals solely from the SDARS satellite. No other input, backup or otherwise, should be allowed, in order to insure the complementary nature of the terrestrial component. Thus the rules should not allow repeater transmissions when the SDARS satellites are not in operation. And thus if, in the future, the SDARS satellites were to fail, or the

<sup>18</sup> Report and Order, *supra*, at ¶ 142.

<sup>19</sup> See id.: 1995 NPRM, *supra*.

<sup>20</sup> Report and Order, *supra*, at 142.

SDARS service ceases operation, the terrestrial repeaters could not be transformed into a terrestrial radio service, which of course would fly in the face of the SDARS allocation itself.

On the issue of licensing of repeaters, NAB submits that such repeaters indeed must be individually licensed so as to (1) verify that they are being used in a complementary role, (2) verify that no local insertion is being done (without licensing this verification will be difficult to accomplish since the repeater locations will not be known), (3) prevent/monitor potential interference to the WCS band, (4) allow for effective monitoring and coordination of interference to Canada and Mexico, and (5) monitor the number of such repeaters.

The Commission has suggested that it would be burdensome to require licensing but it would seem that if the SDARS terrestrial component is truly complementary to the satellite component, then there will be a sufficiently small number of terrestrial transmitters to license-- which will not be burdensome.

To suggest that it would be burdensome to individually license terrestrial repeaters is to suggest that there would be a great number of repeaters, which if true would mean that SDARS is not a satellite-based system, but a satellite-fed terrestrial system.<sup>21</sup> Therefore, NAB also submits that the Commission must not allow unlimited gap fillers, for this very reason, but establish a reasonable cap of the number of such repeaters. This of course can not be proposed until the applicants submit the technical parameters of their proposed repeaters.

If, after submission of adequate technical information, the Commission decides to authorize the use of SDARS terrestrial repeaters, NAB suggests that the Commission adopt a

---

<sup>21</sup> The Commission's suggestion in the FNPRM (at ¶ 142) that the blanket licenses provided to mobile earth stations of other satellite services serve as a model for the regulatory structure here is flawed. Mobile earth stations, which are part of a satellite service, are transmitting and receiving from the satellite. They are more analogous to the receiver component of the SDARS system than to the repeater component.

waiting period (after initiation of service) before gap fillers can be utilized, as CD Radio initially proposed. As there have been no field tests of the SDARS systems submitted to the Commission for licensing, it makes sense to delay the use of repeaters while these systems are fully characterized and optimized. It will not be immediately clear where repeaters are truly needed, and this waiting period will provide the applicants with an incentive to try and resolve signal reception problems by other means than simply putting up repeaters. For example, different receiver designs and antenna configurations may be effective in improving performance in areas which are not fully blocked from view, but where a repeater might be installed as a “quick and dirty” solution if allowed.

One final matter which the NAB would like to bring to the Commission’s attention, as a footnote, involves the definition of the term Satellite Digital Audio Radio Service, in the rules adopted under the Report and Order of March 3, 1997.<sup>22</sup> This definition is provided in Appendix A to that Report and Order, under §25.201, and reads as follows:

*Satellite Digital Audio Radio Service (“DARS”). A radiocommunication service in which audio programming...*<sup>23</sup>

This same definition is also provided in Appendix C to the Report and Order/NPRM and begins thusly:

*Satellite Digital Audio Radio Service (“satellite DARS”). A radiocommunication service in which audio programming...*<sup>24</sup>

The version of this definition as shown in Appendix A is incorrect, since the word “satellite” has been omitted from the quotation marks, and NAB would ask that the rules be edited to correct this apparent oversight.


<sup>22</sup> Report and Order, *supra*.

<sup>23</sup> *Id.* at Appendix A, ¶ 4

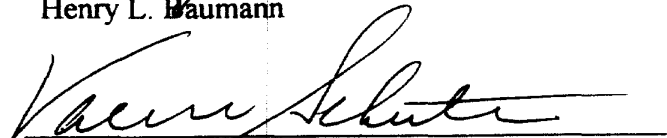
<sup>24</sup> *Id.* at Appendix C, ¶ 2

NAB respectfully suggests that the Commission, in order to solicit informed comments and proceed with consideration of the authorization of terrestrial repeaters for use with SDARS systems, must demand of the applicants the lacking technical information. To proceed otherwise, we submit, would be without sound basis.

Respectfully submitted,

  
Henry L. Baumann

David H. Layer  
Senior Engineer

  
Valerie Schulte

JUNE 13, 1997